



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,830	11/13/2000	Brian J. Minnis	PHB 34,414	5784

24737 7590 06/21/2004

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

WANG, TED M

ART UNIT	PAPER NUMBER
----------	--------------

2634

DATE MAILED: 06/21/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/710,830

Applicant(s)

MINNIS ET AL

Examiner

Ted M Wang

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see paper # 6, filed on March 4, 2004, with respect to Claims 2, 3, and 6 have been fully considered and are persuasive. The U.S.C. 102 and 103 rejections of Claims 2-8 have been withdrawn. Applicant amended claims 1-3, and 6, cancelled claim 5, and added new claims 11 and 12.

Specification

2. The disclosure is objected to because of the following informalities: In page 4 line 11 the reference "polyphase harmonic filter 42" should be changed to "polyphase harmonic filter 40".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kianush et al. (US5,715,529) in view of Davie et al. (US6,278,870) and further in view of Haartsen (US6,081,697).

- In regard claim 1, Kianush et al. discloses a FM receiver including a phase-quadrature polyphase IF filter that quadrature related low IF signals (Fig.1 element M2 and column 4 lines 42-46) are soft limited (Fig.1 elements AL and IF2, and column 5 line 35 – column 6 line 46) prior to being demodulated (Fig.1 element DEM and column 6 lines 41-46, and column 5 lines 21-34), and said receiver comprising, coupled to inputs of a polyphase filter (Fig.1 element RA1 and column 4 line 57 – column 5 line 6. Kianush et al. fails to teach that the polyphase filter is an image rejection filtering means, and amplifying means for adjusting the dynamic range of the quadrature related low IF signals for entry into the image rejection filtering means.

Davie et al. discloses a phasing receiver by implementing an image rejection filter with a polyphase filter (Fig.1 element 24 and column 2 lines 19-52) in order to improve the image rejection capability of a phasing receiver.

Haartsen discloses a multi-carrier radio system and radio transceiver implementation with an amplifier in the path of I and Q baseband signal respectively (Fig.2 element 250 and 295 and column 5 lines 4-35) in order to facilitate I and Q baseband signals for detection or demodulation.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kianush's FM receiver in view of Davie's disclosure in order to improve the image rejection capability of a phasing receiver and further in view of Haartsen's disclosure in order to facilitate I and Q baseband signals for detection or demodulation.

- In regard claim 2, Kianush et al. discloses a FM receiver including a phase-quadrature polyphase IF filter for receiving a wanted data signal modulated on a carrier signal (Fig.1 column 4 lines 15-41) and for producing quadrature related low IF signals (Fig.1 element M2 and column 4 lines 42-46), soft limiting means for compressing the dynamic range of the quadrature related low IF signals (Fig.1 elements AL and IF2, and column 5 line35 – column 6 line 46) and signal demodulation means for recovering the data signal (Fig.1 element DEM and column 6 lines 41-46, and column 5 lines 21-34). All other limitation can further be taught in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 3, the limitation of receiver further including signal demodulation means for recovering the data signal can further be taught in Fig.1 element DEM and column 6 lines 57-64. All other limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 4, all limitation is contained in claim 2. The explanation of all the limitation is already addressed in the above paragraph.
- In regard claim 11, the limitation of amplifying means comprises separate, respective amplification means for said inputs can further be taught by Haartsen in Fig. 2 elements 250 and 295 and column 5 lines 4-35.
- In regard claim 12, all limitation is contained in claim 2 and 11. The explanation of all the limitation is already addressed in the above paragraph.

5. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kianush et al. (US5,715,529) in view of Davie et al. (US6,278,870) and further in view of Haartsen (US6,081,697) and further in view of Bijker et al. (PT5,404,589).

- In regard claim 7, Kianush et al. and Davie et al. and Haartsen discloses all limitation as described in claim 2 along with a data filter (Kianush et al. (US5,715,529), Fig.1 element LPF and column 6 lines 41-64) except specifically teaching that the signal demodulation comprises a polyphase discriminator. All other limitation is contained in claims 2. The explanation of all the limitation is already addressed in the above paragraph.

Bijker et al. discloses a FM receiver with dynamic intermediate frequency (IF) filter tuning that having the signal demodulation comprises a polyphase discriminator (Fig.1 element M3 and SS and column 5 line 58 – column 6 line 7) in order to enhance the FM receiver tuning behaviour.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kianush's and Davie's and Haartsen's FM receiver in view of Bijker's disclosure in order to enhance the FM receiver tuning behaviour.

- In regard claim 8, all limitation can further be taught by Bijker et al. in Fig.3.
- In regard claim 9, the limitation of a receiver comprises those parts of the polyphase receiver as claimed in any one of claim 1 which are integratable can further be taught by Bijker et al. in column 3 lines 21-44. All other limitation is contained in claims 1. The explanation of all the limitation is already addressed in the above paragraph.

- In regard claim 10, all limitation can further be taught by Haartsen in column 2 lines 19-48.

Allowable Subject Matter

6. Claim 6 is allowed.
7. The following is an examiner's statement of reasons for allowance:
 - The prior art fails to teach a receiver of Claim 6 that specifically comprises:
-- the data signal characterized by harmonic filtering that coupled between outputs of the soft limiting and inputs of the signal demodulation as cited.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M Wang whose telephone number is (703) 305-0373. The examiner can normally be reached on 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.


Application/Control Number: 09/710,830
Art Unit: 2634

Page 7

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Ted M Wang
Examiner
Art Unit 2634

Ted M. Wang



STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800